

DRAFT USE CASE TO PROCESS CROSS REFERENCE (V1.0 22nd March 2011)

| Ref | Use Case Title | Description | DNO/GDN Process | Notes |
|-----|--|--|-----------------|--|
| 1 | Commission Smart Metering System Component | <p>This use case describes a one off activity whereby a smart metering component is noted on a DCC database as installed and made operational such that a remote party can communicate with it.</p> <p>The process may be initiated by instruction to the metering system component and the message relayed via the WAN communication module.</p> <p>Note: Need for corresponding decommission communication</p> | None | <p>Assume:</p> <ol style="list-style-type: none"> 1. DNO/GDN does not wish to be involved in <u>initial</u> physical configuration of meter. 2. Will be done using DNO/GDN provided parameters by Manufacturer and if required Supplier/MOP <p>However - DNO/GDN will want to know when a Smart Meter has been commissioned so that they can either expect to receive data or set up instructions to collect data depending on the pre-configured parameters. Also the DNO/GDN will need to know when they can interrogate the meter for operational reasons</p> |
| 2 | Manage PAYG | <p>This is a bundle of interactions related to the operation of a meter in Prepayment mode.</p> <p>This includes the addition of credit to the metering system but may also include the updating of parameters relating to the prepayment operation.</p> | None | Assume Supply Only |
| 3 | Update Statement of Account Balance | This allows the Supplier to send a new statement of the account balance | None | Assume Supply Only |

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| 4 | Manage Events –Set Event Parameters and Rules | <p>This is a bundle of services that allows a remote party to configure parameterised events to be logged or to be alarms or have actions attached.</p> <ul style="list-style-type: none"> • Update Event and Alarm Rules • Event and Alarm Monitoring • Remote Re-Setting of Alarm or Counter | <p>Meter sends Alert to DNO</p> <p>DNO/GDN sends instruction to meter</p> | <p>Assume parameters are set initially on meter configuration. Meter flags to DNO/GDN when parameter met/exceeded.</p> <p>Can also be re-setting of parameters if required (cross reference to 5 below)</p> <p>Example of requirements - as per ENA UCs: Electricity 14 – Send alarm to DNO during network outage 15 – Verify restoration of supply after outage 17 – Restore and maintain supply during outages 18 – Manage safety alarm 19 – Manage extreme Voltage at Meter</p> |
| 5 | Manage Parameters and Configuration | <p>This use case allows the update of parameters and configurable values.</p> <p>Example would include data used for the conversion of measured values to energy values e.g. Calorific Values.</p> <p>There will be periodic updates of values that apply to periods.</p> | <p>DNO/GDN sends instruction to meter – update configuration</p> | <p>Assume parameters are set initially on meter configuration. DNO/GDN to amend selective parameters on an ad-hoc basis.</p> <p>Example of requirements - as per ENA UCs: Electricity 20 – Configure Smart meter system Gas 02 – Configure Gas Smart Metering System</p> |

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| 6 | Upgrade Firmware | This service allows a remote party to send updated firmware or software to a component of a smart metering system. This might normally be done for activation at a later time. The upgrade may include the upgrade, test and confirmation of implementation or if necessary roll back to a previous state. | None | Use Case specifies Supplier and WAN Device Owner activity. This activity will be managed by suppliers even though some of the upgrades may be driven by network requirements. |
| 7 | Provide Message For Display | This use case allows a remote party to send a message to be displayed. | DNO/GDN sends instruction to meter | Example of requirements - as per ENA UCs: Electricity 12 – Notify consumer of planned outage Gas 04 – Display Messages from GDN |
| 8 | Clear Data | This use case allows remote parties to clear data from the metering system | DNO/GDN sends instruction to meter | There is a need for each data item to be assigned parameters indicating which parties have rights to delete data items. It is envisaged that there would not be many situations when DNO data is deleted, however the option should be retained. |

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| 9 | Read Meter | <p>This service is a bundle of services that allow a party to:</p> <ul style="list-style-type: none"> • set up a schedule of measured values to be taken on a regular basis • set up a schedule for delivery of measured values on a regular basis • set up measurements to be taken and delivered at particular times or events • request measurements to be taken and delivered on demand • retrieve stored historical measurements | <p>Meter sends scheduled update to DNO/GND</p> <p>DNO/GND Requests update from Meter</p> <p>Meter sends update to DNO/GND</p> | <p>Major part of ENA UCs covered by this use case.</p> <p>Electricity</p> <p>01 – Monitor power flows and voltage levels to identify thermal capacity and voltage headroom</p> <p>02 – Determine network impact of proposed new demand/generation connections</p> <p>03 – Determine network impact of proposed increases in demand/generation at existing connection points</p> <p>04 – Monitor demand and generation profiles for network load forecasting</p> <p>05 – Determine latent demand due to embedded generation</p> <p>06 – Identify voltage quality issues</p> <p>07 – Collect data for active network management</p> <p>08 – Active management of network voltage</p> <p>16 – Regulatory reporting of Outages</p> <p>Gas</p> <p>01 – GDN Gather Information for planning</p> <p>Note: Before the meter can send the scheduled update the Meter/DCC must be aware of the DNO/GDN requirement so that the schedule can be set up. (See 1. Above)</p> |

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| 10 | Check status and settings at metering system | This is a service that allows a party to interrogate the metering system as to statuses and settings at the metering system | DNO/GDN sends instruction to meter Meter sends update to DNO/GND | Electricity 13 – Query meter Energisation status to determine outage source and location. |
| 11 | Enable Supply | This is a service that allows a party to enable supply. (Enabling supply does not mean starting supply but means putting it into a state where subject to confirmation and /or a check of conditions the supply may be restarted). | DNO/GDN sends instruction to meter | Possible link here between Manage Load type use-case as ultimately the DNO may have a requirement to enable/disable a customer's supply. This sounds extreme but there are some scenarios e.g. under a planned or unplanned outage when supplies may be restored to some customers via an alternative feed if demand can be reduced on the feeder by disconnecting demand. May also be used as a more targeted form of Rota Disconnection. |

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| 12 | Disable Supply | <p>This is a service that allows a party to disable supply.</p> <p>Supply might be disabled for reasons of lack of credit or because of adverse conditions at or near the meter; supply might be reinstated where these reasons cease to be true.</p> | DNO/GDN sends instruction to meter | <p>See also comment on enable supply above.</p> <p>Electricity 18 – Manage safety alarm</p> <p>Gas 03 – Disable supply of gas by GDN</p> |
| 13 | Switch between Credit and PAYG | <p>This use case allows a party to change the mode of a meter's operation from credit to prepayment or from prepayment to credit. This may be scheduled to happen at a particular time.</p> | None | Assume Supply Only |
| 14 | Update Tariff | <p>This use case allows a party to set a tariff for the supply account. A tariff will be set at the start of a supply account and may be changed during the life of that account.</p> <p>Tariffs may be implemented at short notice or scheduled to be implemented at a particular time in the future.</p> | DNO/GDN sends instruction to meter | Initially likely to be Supply Only. However in the long term will need to be able to do this to facilitate the introduction of separate DUoS tariffs. |

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| 15 | Read generation data | <p>This use case allows relevant parties to access generation data at a premise.</p> <p>See H in prospectus</p> | <p>Meter sends scheduled update to DNO/GND</p> <p>DNO/GDN sends instruction to meter</p> | Assume sub set of 9 above (TBC - This is something to aim for.) |
| 16 | Manage Load | <p>This use case is a bundle of services that will allow / require changing of load or generation within premise.</p> <p>The use case might be initiated by a remote instruction from a party to change load.</p> <p>An extreme example might involve the meter disabling the supply but other examples would involve the instruction being forwarded to other local devices which take their own action to change the load, these other devices might be smart appliances or an energy management device which interacts with a number of devices.</p> | DNO/GDN sends instruction to meter | <p>Electricity</p> <p>09 Perform active management of network power flow</p> <p>10 Perform system balancing</p> <p>11 Check effectiveness of active network management/system balancing measures.</p> |

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| 17 | Provide Access Control | This use case allows a party to establish (or cease) access rights with a metering system, this means that they will be able to interact securely with a metering system for a defined set of functions. | TBC | TBC |
| 18 | Manage Device Relationships | This use case will describe how a device is permitted to join a smart metering system network and how its relationship with a network is revoked. This will involve setting particular rights to send or receive data or to use functions. | None | Assume initially Supply Only (TBC – However if a device needs to be added to the HAN for the purpose of DNO DSM only then the Supplier may not be interested. Need to see how this develops.) Use Case on Hold |
| 19 | Provide Update to Display | This use case provides the routine update of on-going consumption data to the In Home Display, update of data needed to display energy and monetary values and other values displayed to the consumer. | None | In-house process only Whilst the SoDR as updated won't include the capability for the standard IHD to display a DNO text message, the HAN does need to be able to do this so – see 7. above. |
| 20 | Provide Tariff | This use case allows a local device to access prices from the metering system tariff in order to judge when or how it should operate. Smart appliances may have economy modes where they run when energy is cheaper, they may allow manual override of this setting. | None | Assume initially Supply only (Also see 14 above). |

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| 23 | Maintain Meters and Infrastructure | <p>This use case allows for interactions with the metering system components maintaining the integrity of the system</p> <p>This may include activities to maintain the accuracy of system time.</p> | None | Supply Only |

User Cases not yet documented:

- Read Event & Alarm Log
- Cancel Scheduled Activity
- Manage PAYG Self Reconnection
- Switch to credit